WLPCS
Geometry

Name: _____ Date: _____ Per.: _____

Station 1 - Concept

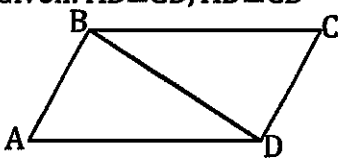
Congruence:

Similarity:

Station 2 – Triangle Proofs

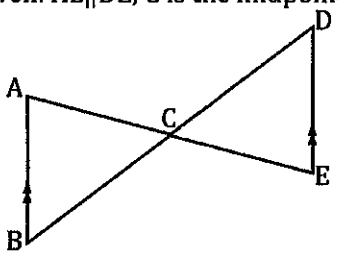
**** COMPLETE ON A SEPARATE SHEET OF PAPER USING THE TWO-COLUMN FORMAT ****

(1) Given: $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{CB}$



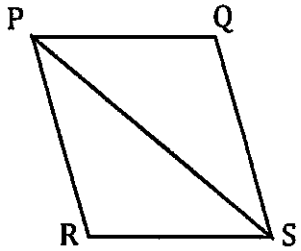
Prove: $\triangle ABD \cong \triangle$ ~~BCD~~ CDB

(2) Given: $\overline{AB} \| \overline{DE}$, C is the midpoint of $\overline{AE}$



Prove: $\overline{BC} \cong \overline{DC}$

(3) Given: PQRS is a parallelogram



Prove: $\triangle RPS \cong \triangle QSP$

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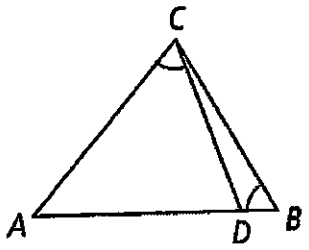
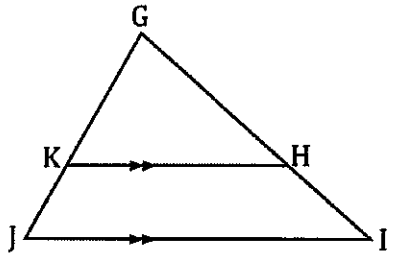
Station 3 – Similarity Proofs

**** COMPLETE ON A SEPARATE SHEET OF PAPER USING THE TWO-COLUMN FORMAT ****

① **Given:** $\angle ABC \cong \angle ACD$
Prove: $\triangle ABC \sim \triangle ACD$



② Given: JI||KH



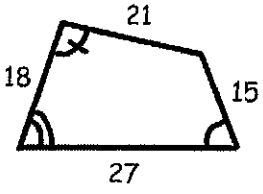
Prove: $\triangle JGI \sim \triangle KGH$

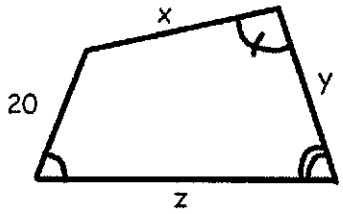
Station 4 – Similarity Problem Solving

1.

A flagpole casts a shadow 28 feet long. A person standing nearby casts a shadow eight feet long. If the person is six feet tall, how tall is the flagpole?

2. Find the value of *x*, *y*, and *z*.





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ANSWER KEY

Station 2

①

Statements	Reasons
① $\overline{AB} \cong \overline{CD}$	① Given
② $\overline{AD} \cong \overline{CB}$	② Given
③ $\overline{BD} \cong \overline{BD}$	③ Reflexive Prop.
④ $\triangle ABD \cong \triangle CBD$	④ SSS

②

Statements	Reasons
① $\overline{AB} \parallel \overline{DE}$	① Given
② C is the mdpt. of $\overline{AE}$	② Given
③ $\overline{AC} \cong \overline{EC}$	③ Def. of midpoint
④ $\angle ACB \cong \angle ECD$	④ vertical $\angle$s are $\cong$
⑤ $\angle ABC \cong \angle EDC$	⑤ alt. int. $\angle$s are $\cong$
⑥ $\triangle ABC \cong \triangle EDC$	⑥ AAS
⑦ $\overline{BC} \cong \overline{DC}$	⑦ CPCTC

multiple ways to prove

③

Statements	Reasons
① PQRS is a p-gram	① Given
② $\overline{PQ} \parallel \overline{SR}$	② def. of p-gram
③ $\angle SPQ \cong \angle PSR$	③ alt. int. $\angle$s are $\cong$
④ $\overline{PR} \cong \overline{SQ}$	④ def. of p-gram
⑤ $\angle SPR \cong \angle PSQ$	⑤ alt. int. $\angle$s are $\cong$
⑥ $\overline{PS} \cong \overline{PS}$	⑥ Reflexive Prop.
⑦ $\triangle RPS \cong \triangle QSP$	⑦ ASA

Station 3

①

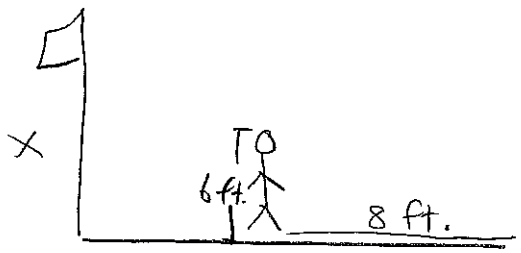
Statements	Reasons
① $\angle ABC \cong \angle ACD$	① Given
② $\angle A \cong \angle A$	② Reflexive Property
③ $\triangle ABC \sim \triangle ACD$	③ AA

②

Statements	Reasons
① $\overline{JI} \parallel \overline{KH}$	① Given
② $\angle GKH \cong \angle GJI$	② Corresponding $\angle$s are $\cong$
③ $\angle G \cong \angle G$	③ Reflexive Prop.
④ $\triangle JGI \sim \triangle KGH$	④ AA

Station 4 (Answer Key Continued)

1.



$\frac{6}{x} = \frac{8}{28}$

$x = 21$ ft.

(2) $x = 28$

$y = 24$

$z = 36$